

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2019****Subject Code: 2133405****Date: 18/06/2019****Subject Name: Manufacturing and Assembly Drawing****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) What is the importance of surface roughness?	03
	(b) Draw the conventional representation of Bevel gear, worm gear and spur gear	04
	(c) Draw the conventions for the following: i) Internal Thread ii) Chain Wheel iii) Conical Helical Spring with Rectangular section iv) Diamond Knurling v) Spiral Spring Unwound vi) Bevel Gear vii) Leaf Spring without eye.	07
Q.2	(a) What is meant by direction of lay?	03
	(b) Differentiate between tolerance and allowance	04
	(c) Explain Ra Value and Roughness Grade Number. Also give symbols for roughness grade	07
OR		
Q.3	(c) Explain GD & T and list out the symbols with neat sketches	07
	(a) Define Steel.	03
	(b) Explain Unilateral and Bilateral Tolerance with an example each	04
	(c) Explain and compare “Hole basis system” and “Shaft basis system” of fits. From manufacturing point of view which system is preferred? Why?	07
OR		
Q.3	(a) Draw the Surface roughness symbols for Roughness values Ra 0.025 μ m and 0.4 μ m.	03
	(b) Write short notes on Datum and Datum features.	04
	(c) Explain fit and classify its types with neat sketches.	07
Q.4	(a) List the standard parts of an two plate Injection Mould Base	03
	(b) Explain positive and negative allowance.	04
	(c) Write short notes on i) Aluminium and its alloys ii) Nickel and its alloys.	07
OR		
Q.4	(a) Define Ferrous and Non-Ferrous Metals and give example of each	03
	(b) What is production drawing of a component? What information must be provided on production drawing of a machine to facilitate its manufacturing and assembly?	04
	(c) Explain the effect of alloying on Mn, Si, Cr and Mo.	07
Q.5	(a) What are the basic principles of dimensioning in production Drawing ?	03
	(b) Explain what do you mean by B.O.M . Draw a sample B.O.M	04
	(c) Draw the symbols for (i) Square Butt weld, (ii) Single Bevel Butt weld, (iii) Single U Butt weld, (iv) Single J Butt weld, (v) Fillet weld, (vi) Spot weld, (vii) Plug weld	07

